

REMARKS**I. General**

Claims 1-24 are pending, and all rejected by the current Office Action. Claims 1, 9, 18, 19, and 23 are amended by this response. The issues in the Office Action are as follows:

- Claim 11 is objected to for use of the term, “the group.”
- Claims 1-5 and 18-24 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite.
- Claims 1-24 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,305,311 (hereinafter, *Lyles*) in view of U.S. Patent 6,487,171 (hereinafter, *Honig*) in further view of U.S. Patent 6,760,332 (hereinafter, *Vladescu*).

Applicant hereby traverses the outstanding rejections and objections and requests reconsideration and withdrawal in light of the remarks and amendments contained herein.

II. Amendments to the Claims

Applicant has amended claim 1 to recite, “one of said output line cards,” and “one of said output line cards.” Support may be found at least at figure 1 of the original disclosure. Therefore, no new matter is added by this amendment. Further, this amendment does not narrow the scope of the claim, nor is it in response to any art.

Claim 9 is amended to be in independent form. Thus, no new matter is added. This amendment does not narrow the scope of the claim, nor is it in response to any art.

Applicant has amended claim 18 to recite, “a plurality of dedicated multicast output cards.” Applicant has amended claim 19 to recite, “a plurality of dedicated multicast input cards.” Also, Applicant has amended claim 23 to recite, “said plurality of dedicated multicast input cards.” Support for the amendments may be found, at least, at figure 2 of the original disclosure. Therefore, the amendments add no new matter. Further, the amendments do not narrow the scope of the claims, nor are they in response to any art.

III. Objection to the Claims

On page 2 of the Office Action, claim 11 is objected to for use of the term, “the group.” Applicant respectfully notes that such terminology is correct when identifying *Markush*-type groups, as is the case with this claim. See the examples in M.P.E.P. § 2173.05(h), wherein the term, “the group” is used without prior use of the term, “a group.” Because such term is correctly used, Applicant respectfully declines the Examiner’s suggestion and requests removal of the objection.

IV. Claim Rejections**A. Rejections under 35 U.S.C. §112, Second Paragraph**

On page 2 of the Office Action, claims 1-5 and 18-24 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

1. Claims 1-5

The Office Action rejects claim 1, specifically for use of the terms, “said output line card,” and “said input line card.” Applicant has amended claim 1 to recite, “one of said output line cards,” and “one of said input line cards.” It is believed that claim 1, at least as amended, includes proper antecedent basis. Because claims 2-5 depend from claim 1, it is believed that those claims also provide proper antecedent basis. Therefore, Applicant respectfully requests removal of the 35 U.S.C. §112, second paragraph, rejection of claims 1-5.

2. Claims 18-24

The Office Action rejects claim 18 for use of the term, “said dedicated multicast output cards,” rejects claim 19 for use of the term, “said dedicated multicast input cards,” and rejects claim 23 for use of the term, “said dedicated multicast input cards.” Applicant has amended claim 18 to recite, “a plurality of dedicated multicast output cards.” Applicant has amended claim 19 to recite, “a plurality of dedicated multicast input cards.” Also, Applicant has amended claim 23 to recite, “said plurality of dedicated multicast input cards.” It is believed that claims 18, 19, and 23, at least as amended, include proper antecedent basis. Because each of claims 21, 22, and 24 depend from at least one of claims 18, 19, and 22, it is

believed that those claims also provide proper antecedent basis. Therefore, Applicant respectfully requests removal of the 35 U.S.C. §112, second paragraph, rejection of claims 18-24.

B. Rejections under 35 U.S.C. §103

Claims 1-24 are rejected under 35 U.S.C. §103(a) as being obvious over *Lyles* in view of *Honig* in further view of *Vladescu*.

To establish a prima facie case of obviousness under 35 U.S.C. § 103(a), three basic criteria must be met. First, there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the applied reference. Second, there must be a reasonable expectation of success. Finally, the applied reference must teach or suggest all the claim limitations. See M.P.E.P. § 2143. Without conceding the second criterion, Applicant respectfully asserts that the rejection does not satisfy the first and third criteria, as discussed further below.

1. Claims 1-5

a. Failure to teach or suggest all claim limitations

Claim 1 recites, in part, “an optical switching fabric having multiple inputs and multiple outputs connected through multiple switching paths.” The cited combination does not teach or suggest the above-recited feature of claim 1 because it does not teach or suggest an optical switching fabric. The Office Action, at page 3, cites *Lyles* at figure 10, items 106 and 104 and figure 2, item 41 as teaching the feature; however, *Lyles* fails to teach or suggest that feature. Item 104 in figure 10 is an output line, and, therefore, is not an optical switching fabric. Item 106 of figure 10 is an OC-3 switching fabric, but *Lyles* does not teach or suggest that it is an optical switching fabric, as claimed. Optical Carrier-3 (OC-3) is a Synchronous Optical NETwork (SONET) standard that simply refers to transmission of data at 155 Mb/s. See, for example, the definition of “Optical Carrier” from TechWeb Encyclopedia, submitted herewith. See also *Lyles* at column 17, lines 61-63. While OC-3 means that the data between nodes in the network of *Lyles* is sent as optical signals, there is no requirement (or suggestion) that the switching fabric in the switches are optical switching fabrics. *Lyles*

merely states that the switching fabric of figure 10 is capable of switching signals that are transmitted at 155 Mb/s.

Further, while not conclusive on the issue, it should be noted that the signal in figure 10 is fed to electrical components, the Virtual Circuit Index (VCI) translators. This means that figure 10 does not teach or suggest a start-to-finish optical signal, and, therefore, the switching fabric may or may not be electrical. Still further, the passage in *Lyles* at column 4, lines 49-62 describes routing cells through the switching fabric and entering then into a queue (item 45 of figure 2), which is an electrical component; however, the passage says nothing about converting the cells into electrical signals before entering them into the queue component. The fact that electrical conversion is not mentioned suggest the opposite of the Examiner's assertion—that the switch fabric is electrical rather than optical. Therefore, *Lyles* does not teach or suggest “an optical switching fabric,” as claim 1 requires.

The Office Action does not rely on *Honig* or *Vladescu* to supply the above-recited features of claim 1. Therefore, the cited combination of *Lyles*, *Honig*, and *Vladescu* does not teach or suggest each and every feature of claim 1. Accordingly, Applicants respectfully request removal of the 35 U.S.C. §103(a) rejection of claim 1.

Dependent claims 2-5 each depend either directly or indirectly from independent claim 1 and, thus, inherit all of the limitations of independent claim 1. Thus, the cited combination does not teach or suggest all claim limitations of claims 2-5. It is respectfully submitted that dependent claims 2-5 are allowable at least because of their dependence from claim 1 for the reasons discussed above.

b. Lack of motivation to combine

The combination of *Lyles*, *Honig*, and *Vladescu* is without proper motivation because the cited art fails to provide such motivation. It is well settled that the fact that references can be combined or modified is not sufficient to establish a *prima facie* case of obviousness, M.P.E.P. § 2143.01. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combinations, M.P.E.P. § 2143.01 citing *In re Mills*, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). The Office Action states at page 4:

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine such a dedicated multicast input card that is interconnected with a dedicated multicast output card through a data path and such that said dedicated multicast input and output cards have no facility interface connection, as taught by *Vladescu* with *Lyles*, so that data can be feedback from output to input of a switching fabric for a purpose of data duplication. The motivation for doing so would have been to provide a logical multicasting capability using the smaller, cheaper and less power consuming switches which do not have a built-in logical multicasting function (see *Vladescu*: col. 1 lines 62-65). Therefore, it would have been obvious to combine *Vladescu* with *Lyles* in the invention as specified in the claim.

(emphasis added) To combine the dedicated multicasting cards of *Vladescu* with the system of *Lyle* is not needed because *Lyles* already provides a mechanism that feeds back data from output to input of a switching fabric for the purpose of data duplication. Note that the copy network (item 48 of figure 2 of *Lyles*) includes its own crossbar switch (item 86) that makes multiple copies of the multicast cell. See Col. 15, line 63 through Col. 16, line 1. One of skill in the art would not make such a combination because the suggested combined feature already exists in *Lyles*. Accordingly, there is no need, and thus, no motivation for the proposed combination. Therefore, Applicant respectfully submits that the 35 U.S.C. § 103(a) rejection of claims 1-5 fails.

2. Claims 6-24

a. Failure to teach or suggest all claim limitations

Claim 9 recites, in part, “wherein said multicast packet is converted from an optical packet to an electrical packet at said dedicated multicast output card.” This feature is not taught or suggested by the cited combination at least because *Lyles* does not teach or suggest that the switching fabric therein is optical.

On page 6, the Office Action cites *Lyles* at column 2, lines 59-62, column 3, lines 6-19, column 7, lines 44-48, and figure 2 as teaching the feature. The office action’s logic is that the reservation ring of figure 2 (item 46) is an electrical component and that the switch fabric (items 42-44) is optical; therefore the packet must be converted from electrical to optical at an output card. Such an assertion is incorrect.

First, the passage at column 2, lines 59-62 merely defines a “link rate,” but does not teach or suggest that optical signals are used in the switch fabric. Mentioning link rates and optical fiber in the same sentence is not enough, without more, to teach or suggest an optical switch fabric. Second, the passage at column 3, lines 6-19 only says that some virtual circuits may provide speeds up to 155 Mb/s, but does not say anything about the speed of the switches in the network, and certainly does not imply anything about an electrical or optical nature of the switching fabrics in the switches. It seems that this passage is used to show that OC-3 is used in the network; however, as shown below, that the network itself is an OC-3 network does not necessarily suggest that the switching fabric is optical. OC-3 is a SONET standard that simply refers to transmission of data at 155 Mb/s. See, for example, the definition of “Optical Carrier” from TechWeb Encyclopedia, submitted herewith. See also *Lyles* at column 17, lines 61-63. While OC-3 means that the data between nodes in the network of *Lyles* is sent as optical signals, there is no requirement (or suggestion) that the switching fabrics in the switches are optical switching fabrics. *Lyles* merely states that the switching fabric of figure 10 is capable of switching signals that are transmitted at 155 Mb/s.

In fact, *Lyles* suggests that the switching fabric is electrical. Note that the passage in *Lyles* at column 4, lines 49-62 describes routing cells through the switching fabric and entering then into a queue (item 45 of figure 2), which is an electrical component; however, the passage says nothing about converting the cells into electrical signals before entering them into the queue component. There is also no item in figure 2 that is described as capable of converting cells into electrical signals. The fact that electrical conversion is not mentioned suggests the opposite of the Examiner’s assertion—that the switch fabric is electrical rather than optical. Because *Lyles* suggests that the switching fabric is electrical, it fails to teach or suggest, “wherein said multicast packet is converted from an optical packet to an electrical packet at said dedicated multicast output card,” as recited by claim 9. The Office Action does not rely on *Honig* or *Vladescu* to teach or suggest this feature; therefore, the cited combination does not teach or suggest the above-recited feature of claim 9. Accordingly, it is respectfully requested that the rejection of claim 9 be withdrawn.

b. Lack of motivation to combine

The combination of *Lyles*, *Honig*, and *Vladescu* is without proper motivation because the cited art fails to provide such motivation. It is well settled that the fact that references can be combined or modified is not sufficient to establish a *prima facie* case of obviousness, M.P.E.P. § 2143.01. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combinations, M.P.E.P. § 2143.01 citing *In re Mills*, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). The Office Action states at page 4:

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine such a dedicated multitask input card that is interconnected with a dedicated multicast output card through a data path and such that said dedicated multicast input and output cards have no facility interface connection, as taught by *Vladescu* with *Lyles*, so that data can be feedback from output to input of a switching fabric for a purpose of data duplication. The motivation for doing so would have been to provide a logical multicasting capability using the smaller, cheaper and less power consuming switches which do not have a built-in logical multicasting function (see *Vladescu*: col. 1 lines 62-65). Therefore, it would have been obvious to combine *Vladescu* with *Lyles* in the invention as specified in the claim.

(emphasis added) To combine the dedicated multicasting cards of *Vladescu* with the system of *Lyle* is not needed because *Lyles* already provides a mechanism that feeds back data from output to input of a switching fabric for the purpose of data duplication. Note that the copy network (item 48 of figure 2 of *Lyles*) includes its own crossbar switch (item 86) that makes multiple copies of the multicast cell. See Col. 15, line 63 through Col. 16, line 1. One of skill in the art would not make such a combination because the suggested combined feature already exists in *Lyles*. Accordingly, there is no need, and thus, no motivation for the proposed combination. Therefore, Applicant respectfully submits that the 35 U.S.C. § 103(a) rejection of claims 6-24 fails.

V. Conclusion

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

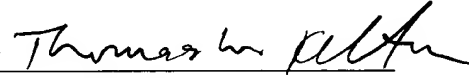
Application No.: 09/714,426

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Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 06-2380, under Order No. 59182/P005US/10020642 from which the undersigned is authorized to draw.

Dated: March 29, 2005

Respectfully submitted,

By 

Thomas Kelton

Registration No.: 54,214

FULBRIGHT & JAWORSKI L.L.P.

2200 Ross Avenue, Suite 2800

Dallas, TX 75201-2784

(214) 855-7115

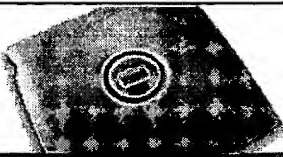
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(Optical Carrier) The transmission speeds defined in the SONET specification. OC defines transmission by optical devices, and STS is the electrical equivalent. See [DS](#).

Service	Speed (Mbps)
OC-1 STS-1	51.84 (28 DS1s or 1 DS3)
OC-3 STS-3	155.52 (3 STS-1s)
OC-3c STS-3c	155.52 (concatenated)
OC-12 STS-12	622.08 (12 STS-1, 4 STS-3)
OC-12c STS-12c	622.08 (12 STS-1, 4 STS-3c)
OC-48 STS-48	2488.32 (48 STS-1, 16 STS-3)
OC-192 STS-192	9953.28 (192 STS-1, 64 STS-3)
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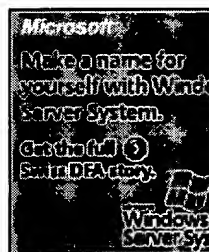
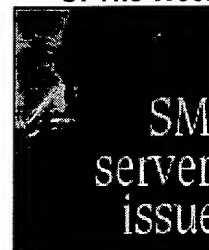
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